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FAIRCHILD TROPICAL GARDEN

The Wampee, a Fruit Tree

of

The Far East

by

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The Wampee, a Fruit Tree of the Far East

(*Clausena lansium,* (Lour.) Skeels)

by

DAVID FAIRCHILD

IS there anything much more romantic than to find a plant with beautiful flowers or bearing delicious fruits, somewhere in the world, and plant a seed of it and watch it grow under your eyes into something a billion, billion times as large as the little seed you planted years and years ago? I am willing to challenge anyone to show me a "field" in which men and women live that will bring into their lives more real pleasure of the aesthetic kind than will living plants; especially perhaps the long lived ones.

This story of the *Wampee* tree is fascinating to me. But I am at a loss to know how I am going to make the readers of my story feel the romance that I feel about it; even those of the Garden Members who have growing in their yards a tree of the Wampee which they bought last spring; a seedling of one which fruits regularly here in the Kampong.

In "The World Was My Garden" I describe my friend Mr. Lathrop's and my visit to Siam in 1896. During that visit Dr. G. H. Hayes, Physician to the King gave a gay stag party in his house in Bangkok at which John Barrett, then our Minister to Siam (later Director of the Pan American Union) and Mr. Lathrop both made very amusing speeches. Between the speeches I had time for a few words of conversation with our host, naturally enough, about plants. I asked him which was, in his estimation, the finest fruit in Siam. He replied without a moment's hesitation, "The Wampee". I handed him my place card and he scribbled on it "It's the Wampi." The table happenings prevented me from getting more information from him and our stay was in the wrong season of the year for me to get any seeds. Furthermore, had I gotten some, there was no organization then in America, (fifty years ago) which was interested in tropical fruits; this Miami area was a solid stand of the Caribbean pine with a few settler's shacks scattered about among them.

After the organization of the "Section of Foreign Seed and Plant Introduction" in the Department of Agriculture, in 1897, and the starting of the little Plant Experimental Garden on Brickell Avenue; in the conduct of which I was associated with two remarkable men: Walter T. Swingle and Herbert J. Webber; I began to encourage Missionaries, American Consuls and any correspondents I could get in touch with, to send in seeds of tropical fruits and ornamental trees and shrubs. Luckily a born plant enthusiast was in charge of the plantings and although he had never seen the Tropics he was keen to make any seeds I sent him grow. Edward Simmonds was his name.

My first visit to this garden was in 1898 but it was in 1914, my third visit that Mr. Simmonds called my attention to a tree carrying only the "S.P.I." number, "23456". In my travel report of that visit I see I spoke of this as "an undetermined species of tree from the island of Hainan, South China" and reported "It is now ten feet tall and doing unusually well. It has been planted out three years. This is interesting as showing that trees from the rich flora of this South Chinese Island may be expected to do well in Southern Florida. This has since been determined as Clausena lansium (Cookia punctata) the Wampi of South China."

On looking up the records in Washington I found that the seeds were sent to us Aug. 29th, 1908 by Mrs. J. Frank Kelly from Nodoa, Hainan, an island comparable to Formosa, but more tropical. Her letter was from Hoikow, (perhaps Hoihow).

"I am sending you seeds of the 'yellow skin' '(In Foe)' a fruit the size of a large marble, skin yellow when ripe, with a tart delicious flavor. It makes a nice, cooling drink and lovely jam, a little like gooseberry in flavor. It grows on a pretty, symmetrical tree."

The tree from Mrs. Kelly's seed fruited in the Brickell Avenue Garden in 1920, twelve years after the seeds arrived in America. A single seedling from it was given to me in 1923, and it was several years before it bore fruit—just how many I cannot say. The first record I made of flowers on it was in January, 1929. The evidence tends to show that the Wampee is not a particularly rapid grower or a precocious fruiter—certainly not when planted as mine was in a pothole in the limestone rock. What the tree will do on deep, rich, neutral or acid soil I do not know. This original tree is now about 12 feet high.

Since this first fruiting in 1929 the tree has borne crops of fruit every year I believe and we all like the flavor of the fruits but their size and meagre quantity has deterred us from picking them and sending them to our friends.

Lee Adam's Portrait of the Wampee in fruit. When the fruits are young they stand erect as he has shown. As they ripen the cluster droops as shown in the other photograph, taken when the fruits were dead ripe.

From one of these crops Nathan Sands, our gardener, planted some seeds and raised a few plants. He set one of these out a few yards from the parent tree. When it fruited the year before Sands died we were surprised and pleased to find that its fruits were much larger and better flavored than any which the mother tree had borne. Since there was no other tree of the Wampee anywhere about, the evidence that it is self fertile is pretty conclusive. Whether it would produce larger crops were it in an orchard of wampee trees is a question.

In 1947 this "Sands" tree bore a large crop of fruit and Lee Adams, the painter of fruit portraits, made what I believe is the first adequate portrait ever painted on this side of the world, of this interesting fruit. What the Chinese artists have done with it I do not know.

To describe in words a fruit new to your readers is an almost impossible undertaking. You can give its size, and tell whether it is round, or oblong, or flattened like most tomatoes. You can give its color, although no two people are likely to agree what "brown" or "red" or "greenish yellow" are and if one were asked to paint a fruit from your word description he would probably make a mess of it. The texture of the skin presents another problem. And when it comes to what is inside the skin, the part one eats, there appear to be only two words in the English language with which to designate it. When Dr. Richards of "Basic English" was visiting us once I challenged him to find any word for the part of a fruit one eats except those which everybody uses. He could find only the familiar ones; "flesh" and "pulp". I objected to both of these. "Flesh" suggests something bloody and "pulp" always reminds me of a dentist's chair and his drill. "Stuff" while perhaps a more general word than the other two, has possibilities I think.

With these words of apology let me try and give a description of this wampee (which may be spelled wampi); a description of a cluster of ripe fruits such as I have now before me. Most clusters of fruit tend to hang down like bunches of grapes. The fruit cluster of the wampee however stands

straight upwards until the fruits are ripe. When not yet ripe the fruit is a light vivid green. If you run your fingers over the fruit stems they are quite rough. The young fruits too, are rough and somewhat irregular in outline, and oblong. A full cluster will sometimes have on it 40 or more fruits. They are a scant inch in diameter and round when they ripen. You can eat them as you would a muscat grape—peel them or suck out the juicy acid-sweet contents. The skin has a slight terebinth flavor. Three shiny green and brown seeds are in each fruit. They germinate a few days after planting. If you wait until the fruits are dead ripe and have turned a bronze-brown color you will find them delicious. They keep a long time; I have had a cluster on my desk for two weeks and find them still fresh and excellent eating.

I never tire of eating wampees; I have never had enough of them from my trees.

The tree itself is vase shaped and it branches a foot or so above the ground which gives it the resemblance of a bush. Its foliage is a beautiful dark green—large compound leaves a foot or more long, made up of eleven oblong leaflets (ovate) with irregular bases and pointed, with a distinct tip and wavy outlines or edges. The surfaces of the leaf are smooth and glossy but the mid-rib is quite rough to the touch. These leaflets are placed nearly but not strictly opposite on the leaf stem. They are odorless. A single leaf may be a foot to 18 inches long.

I made an attempt to grow cuttings of my Wampee; to root them in wet sand, but although the cuttings remained perfectly green and fresh for the incredible period of three years they never showed any signs of rooting. This experiment was before the time of the use of hormones to encourage the root formation of cuttings. The bark of the twigs is curiously rough and dark green in color and apparantly the chlorophyll in the bark remained active through the years of its stay in my potting bench.

I have made no attempts myself to graft the wampee on any other stock but Dr. W. T. Swingle reports in his "Botany of Citrus" page 169 that it can be grafted on citrus stock and forced into early flowering and fruiting. Also that the rough lemon can be grafted on it and will grow for many years, providing a small branch of the wampee is allowed to grow just below the graft. Wampee grafts on Citrus stocks make a much better union than Citrus on wampee.

I do not have any definite data on the hardiness of the wampee, but I do discover in reading over my early reports that the tree in the Brickell Avenue Garden fruited in 1920 which was three years after the worst freeze on record (minimum 26.2° F.) when coconut palms had their leaves turned ashy grey; when Terminalia edulis from the Philippines killed back to the ground and died, although a tree four inches in diameter. A large Mulgoba mango tree was killed back to "two inch wood." The wampee could not have been very severely hurt or it would not have fruited in less than three years.

In short, this new fruit tree seems to be well adapted to cultivation in Florida and there may be places in California where it will do well. It is not too large for small private places and its fruits have a quality which will surely make them popular. So far as I know no one has tried shipping the wampee but from the fact that fruits laid on a shelf have kept their shape and juiciness for two or three weeks I have no doubt it will be a good shipper. Its skin is distinctly tougher than the skin of the grape.

Experience seems to have shown the short sightedness of starting a new Plant Industry without making an investigation of the relatives of the plant one is starting to grow on an extensive scale.

Thanks to Dr. Walter T. Swingle's exhaustive studies of the genus to which the wampee belongs, we have a large amount of information regarding its relatives which occur in the area from Northwestern India to China and Formosa, south through the East Indian Archipelago to the island of Timor, northern Australia and New Guinea. In Africa they are found from Abyssinia to Cape Colony and in West Africa from Angola north to Sierra Leon*.

Dr. Swingle tells us that in his investigations he had to borrow nearly a thousand dried specimens on herbarium sheets from the great Herbaria of Kew Gardens and the Royal Botanic Gardens in Calcutta and to invent a new technique for the microscopic study of this dry material; using microtome sections on glass slides, particularly of the pistils which contain the diagnostic characters. Dr. Tanaka, a Japanese Botanist who was associated with Dr. Swingle in this monumental work on Cisrus, spent ten years in the herbaria of Europe, paying particular attention to the genus Clausena. Yet with all of this study of the dry material, Dr. Swingle remarks "there still remains much work to be done."

But at last the groundwork has been laid for a genetic study of this interesting fruit and hybridizing and extensive root stock experiments could begin.

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* Swingle, Walter T. "The Botany of Citrus and Its Wild Relatives of the Orange Subfamily." Chapter IV in "The Citrus Industry Vol. 1." University of California Press. 1934. pp. 160-192.

Fruit cluster of the Wampee; one of the delicious fruits of the Far East.
Its greenish-gold skin turns to a golden brown when it ripens. This skin is tougher than that of the grape which may make it a shipping fruit to be sent all over the country. Its pulp melts in one's mouth like that of the grape and has a sweet oriental flavor with none of the "pucker" of the Concord grape.
This seedling tree is named after Nathan Sands, who planted it.

Twenty three species of Clausena are listed in the literature. Of all of these (many of which are very imperfectly known) only three seem to bear what their discoverers have reported as edible fruits. These are: the Indian Wampee, Clausena dentata var dulcis of the Madras Presidency; Clausena indica of Ceylon and India and in the Bombay Ghats and Clausena dentata var Henryi of South Western China.

Beddome of the Indian Forest Service describes Clausena dentata var dulcis as "A tree with a delicious fruit not uncommon on the Anamallays up to 3000 feet altitude both in moist woods and in the drier forests,—it flowers in April and the fruit begins to ripen at the end of June,—the fruit is more grateful to the taste than that of the "Whampee" (Cookia punctata; sny. of Clausena lansium). The tree is well known to the hill tribes and called *Mor Koorangee*. I have often met Kaders carrying home on their backs basket loads of this and the fruits of Pierardia sapida (Baccaurea perhaps) which is also abundant in these jungles. Fruits are globose, size of a large cherry. Tree 30 feet high with a trunk several feet in girth bearing a very delicious fruit as large as a large cherry, as succulent as a grape, and somewhat of the flavor of the black currant."

Regarding this species Dr. Swingle has just written me that in Travencore and Madras Presidency, Southern India, it is a *deciduous* tree and is leafless in March; flowers in April and ripens its fruits from June to August. A young student from

The Wampee tree on the Kampong, descendent of the original Wampee tree which grew in the Brickell Avenue Garden in Miami from a seed sent by Mrs. Kelly from Hainan Island China, August 29th, 1908. Parent of the Sands seedling. Photographed May 24, 1949.

Madras who has been studying for his doctorate in America has just returned to his home and has offered to send Dr. Swingle seeds of this promising species of Clausena. Being deciduous in our cool months it may prove hardier.

Mr. Thomas A. Bourdillon, Conservater of Forests of Travancore wrote that he "agreed" with Beddome that "the fruit, which very much resembles the grape, is very delicious and is well worthy of attention." It is common in the evergreen forests of Travencore at an altitude of 1000 to 4000 feet where the rainfall is light. It is a small tree (30 ft.) and is leafless in March; flowers in April, and fruits in May and June.

Swingle wrote six years ago about this relative of the Wampee; — "It is much to be desired that this fruit tree be introduced into cultivation as soon as possible and grown wherever the climate and soil permit. It should of course be cross pollinated with the Chinese Wampee in the hope of securing new and superior hybrid varieties of Wampee."

So far as I know it has not been successfully established in Florida.

Clausena dentata var Henryi grows in the Hupeh province of China near Ichang. The fruits are considered edible in Central China and the small tree is believed by some botanists to be cultivated in Hupeh. The fruits are black and about the size of currants. Swingle has advocated its introduction in his book.

When it comes to the question of proper stocks for these wampees and their relatives there is much to be done. I trust that should orchards be started of it and a real plant industry grow up, the mistake will not be made of using only wampee trees on their own roots or grafts from fine seedlings on wampee roots. A serious stock experiment should be started early, using those species of the 23 relatives that seem promising as stocks in our Florida Soils.

Those species already known to bear "delicious" fruits should be brought in as soon as possible and

crosses made with this, our only species so far grown in Florida, — Clausena lansium.

No doubt there are to be found in South China, Siam, and in Cochin China some superior varieties (distinct from species) of the wampee, just as there are of the other fruits of the fruit-loving peoples of those great regions.

The Explorer, Frank N. Meyer, sent in 1917 some seeds which Dr. W. H. Dobson of the Forman Hospital in Canton gave him saying "they came from the largest Wongpi (sic) I have ever seen." S. P. I. 45328. Plant Inventory 53.

Dr. Swingle mentions eight varieties of wampee which are grown in the Kwantung Province according to Mill Tsen, Professor Wen- Wen-Kuang of Sun Yat-sen University of Canton. Like many horticultural varieties of plants in both Japan and China these are given long descriptive names.

There is the "White-hairy-chicken-heart-sweet-wampee" and the "Yellow-hairy-chicken-heart-sour wampee" and the "Long-chicken-heart-sour-wampee." I am reminded by these names of one of the Japanese Flowering Cherry Trees that was sent up from Japan when we brought in our collection; some of which varieties have now found their way into the dooryards and parks of Washington. "The Royal Carriage turns again to Look and See" was our Gardener Mori's translation of the brush marks on the cloth label which was attached to one little tree when we unpacked it.

After all, modern protein chemistry has had to go into multiple syllables crowded into one long unpronounceable name to describe their newly discovered molecules.

But by whatever names they are known these wampee varieties should be introduced into Florida for who knows what superior seedlings might turn up from their crosses?

The Kampong
Coconut Grove, Florida.
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